

CLAIMS

What is claimed is:

Add A37

1. A garment made from a multi-layered fabric laminate in which the multi-layered fabric comprises:
 - a.) a first fabric, having a front surface and an opposite, back surface;
 - b.) a second, having front surface and an opposite, back surface;
 - c.) said second layer of each of the fabrics in mutually overlaid position to each other over substantially the entirety of their respective facing surfaces;
 - d.) at least one of said fabrics being an elastomeric stretchable fabric, and the other of said fabrics having stretch characteristics to enable it to elongate and return together with said elastomeric fabric; and
 - e.) an intermediate layer of an adhesive material, dispersed between the first and second layers of fabric, the adhesive material being in communication with both of the two second facing surfaces of said fabrics and covering at least portions of said facing surfaces, so as to cause adhesion of the first and second layers of fabric, at those places where the respective first and second layers are in communication with the adhesive material, upon actuation of the adhesive material, and wherein the cut edge of the fabric provides the finished edge of said garment.
2. The garment according to claim 1 in which the edge of the garment includes curved sections.

- (
3. The garment according to claim 1, wherein the adhesive material is actuated according to a manner selected from the group consisting of: actuation immediately upon application and contact with fabric; and actuation after application to fabric upon the performance of an actuation step.
 4. The garment according to claim 3, wherein the actuation step to actuate the adhesive after application to fabric is by thermal actuation.
 5. The garment according to claim 4, wherein the adhesive material is a thermoplastic adhesive resin.
 6. The garment according to claim 5, wherein the thermoplastic adhesive resin, prior to actuation, is in a form selected from the group consisting of: a web; a film; a dry powder; a print; a spray; and an aerosol.
 7. The garment according to claim 5, wherein the thermoplastic adhesive resin is in the form of a web.
 8. The garment according to claim 5, wherein the thermoplastic adhesive resin is selected from the group consisting of a polyamide and a polyurethane.
 9. The garment according to claim 8, wherein the thermoplastic adhesive resin is a polyamide.

- 10
10. The garment according to claim 9, wherein the polyamide is a ternary polyamide, having a melting temperature in the range of from about 100 °C to about 200 °C.
11. The garment according to claim 9, wherein the polyamide is in the form of a web.
12. The garment according to claim 6, wherein the thermoplastic adhesive resin is in the form of a dry powder.
13. The garment according to claim 1, wherein the intermediate layer of adhesive material dispersed between the first and second layers of material covers the entire facing surfaces of the respective first and second layers of material, such that upon actuation of the adhesive material, the first and second layers of material are bonded to one another over the entirety of their respective facing surfaces that are in communication with the adhesive material.
- 5
14. The garment according to claim 1, wherein the intermediate layer of adhesive material dispersed between the first and second layers of material covers only selected portions of the facing surfaces of the respective first and second layers of material, such that upon actuation of the adhesive material, the first and second layers of material are bonded to one another over only those selected portions of their respective facing surfaces that are in communication with the adhesive material.
- 5

- 5
15. The garment according to claim 13, further comprising at least one additional material, to provide at least one of the functions of: acting as a stabilizing material; acting as a reinforcing material; and acting as a shape-imparting material; the at least one additional material being alternatively inserted between one of the first layer of material and the intermediate layer of adhesive material; and the second layer of material and the intermediate layer of adhesive material, over certain selected portions of the respective facing surfaces of the first and second layers.
16. The garment according to claim 13, further comprising at least one additional material, to provide at least one of the functions of: acting as a stabilizing material; acting as a reinforcing material; and acting as a shape-imparting material; the at least one additional material being alternatively inserted between one of the first layer of material and the intermediate layer of adhesive material; and the second layer of material and the intermediate layer of adhesive material, over certain selected portions of the respective facing surfaces of the first and second layers; and attached to an outer surface of at least one of the first and second layers of material over certain selected portions of the outer surface of the first and second layers of material.
- 10
17. The garment according to claim 15, wherein the additional material is selected from the group consisting of a wire, channel material, a gore, and a control panel.
18. The garment according to claim 16, further comprising a pair of shoulder straps and a fastener for connecting and closing the end panels.

19. The garment according to claim 18, wherein the fastener is selected from the group consisting of: at least one hook and eye fastener, at least one snapper; and a Velcro® type fabric closure device having a first portion bearing a plurality of hook elements and a second part bearing a plurality of cooperating catch elements for the hook elements.
- 5
20. The garment according to claim 16, which is a tubular, pull-over brassiere, and wherein the fabric laminate is made from one or more compatible stretch materials.
21. A glued multi-layered blank for use in the construction of a body shaping undergarment constructed of a multi-layered fabric laminate comprising:
- 5
- a.) a first fabric, having a front surface and an opposite, back surface;
 - b.) a second, having front surface and an opposite, back surface;
 - c.) said second layer of each of the fabrics in mutually overlaid position to each other over substantially the entirety of their respective facing surfaces;
 - d.) at least one of said fabrics being an elastomeric stretchable fabric, and the other of said fabrics having stretch characteristics to enable it to elongate and return together with said elastomeric fabric; and
 - 10 e.) an intermediate layer of an adhesive material, dispersed between the first and second layers of fabric, the adhesive material being in communication with both of the two second facing surfaces of said fabrics and covering at least portions of said facing surfaces, so as to cause adhesion of the first and second layers of fabric, at those places where the respective first and second

layers are in communication with the adhesive material, upon actuation of the adhesive material, and wherein the cut edge of the fabric provides the finished edge of said garment.

22. The composite, glued, multi-layered fabric blank according to claim 21, having a surface area at least as large as a surface area of a single undergarment to be cut therefrom.
23. An undergarment made from the composite, glued, multi-layered fabric blank according to claim 21.
24. A brassiere made from the composite, glued, multi-layered fabric blank according to claim 18.
25. The brassiere according to claim 24, having a pair of breast-supporting cups, which are formed in two regions on the blank wherein the adhesive material does not cover the respective facing surfaces of the first and second layers of material in the two cup regions of the blank, such that the first and second layers of material do not adhere to one another in the two cup regions of the respective facing surfaces of the first and second layers that are not covered with adhesive material, after the adhesive material has been heat-actuated to fuse and adhere the first and second layers of material together over those portions of their respective facing surfaces that are covered with adhesive material.
5

卷之三

26. The brassiere according to claim 25, wherein the adhesive material is placed over the entire communicating surfaces of the individual fabric that form the fabric laminate, including in the two region of the blank that form the breast-supporting cups, such that the first and second layers of material adhere to one another over the entire surface of the fabric laminate including in the two breast-supporting cup regions of the first and second layers, after the adhesive material has been heat-actuated to fuse and adhere the first and second layers of material together over the entire portions of their respective facing surfaces that are covered with adhesive material.

5

27. A method of forming a composite, glued, multi-layered fabric blank for producing an undergarment, the method comprising:

a.) applying a layer of a heat-actuated adhesive material between a first, inner layer of a first fabric selected from the group of materials consisting of cotton, nylon, polyester, tricot, and spandex, the first layer of the first fabric having a first surface area; and a second, outer layer of a second fabric selected from the group of materials consisting of cotton, nylon, polyester, tricot, and spandex, the second layer of the second fabric having a second surface area, such that the first and second fabrics are of the same material or are of different materials, and such that the first surface area of the first layer of fabric and the second surface area of the second layer of fabric at least partially overlap; such that the adhesive material is in contact with at least a portion of the first surface area of the first layer of fabric and at least a portion of the second surface area of the second layer of fabric, the

10

15

portions of the first and second surface areas of the respective first and second layers of fabric in contact with the adhesive material being the overlapping portions of the surface areas of the first and second layers of fabric, in order to form a multi-layer blank;

20

b.) heat-actuating the adhesive to melt the adhesive, forming a molten adhesive;

and

25

c.) adhering the overlapping portions of the first and second layers of fabric by applying pressure to the multi-layer blank to cause the overlapping portions of the surface areas of the first and second layers of fabric having the molten adhesive distributed therebetween to be adhered to one another over the corresponding surfaces that are both in contact with the molten adhesive, to form the composite, glued, multi-layer fabric blank.

28. The method according to claim 27, wherein the adhesive is selected from the group consisting of an adhesive resin and a powdered adhesive.
29. The method according to claim 27, wherein the adhesive is an adhesive resin.
30. The method according to claim 27, wherein the adhesive resin is selected from the group consisting of a polyamide and a polyurethane.
31. The method according to claim 30, wherein the adhesive resin is a polyamide.
32. The method according to claim 31, wherein the polyamide is in the form of a web.

- 70410510 703226260
- 33. The method according to claim 29, wherein the web is a ternary elastomeric material, having a melting temperature in the range of from about 105 °C to about 175 °C.
 - 34. The method according to claim 27, wherein the adhesive material is a powdered adhesive.
 - 35. The method according to claim 27, wherein the powdered adhesive is selected from the group consisting of a polyamide and a polyurethane.
 - 36. The method according to claim 27, wherein the composite, glued, multi-layered blank for producing an undergarment, has a surface area at least as large as a surface area of a single garment to be cut therefrom.
 - 37. The method according to claim 27, wherein when the layer of a heat-actuated adhesive material is applied between the first, inner layer of a first fabric and the second, outer layer of a second fabric, at least certain selected portions of the overlapping surfaces of the first and second layers do not have adhesive material applied therebetween, such that after heat-actuating the adhesive to melt the adhesive and form a molten adhesive, the selected portions of the overlapping surfaces of the first and second layers that do not have adhesive material applied therebetween are not fused together and do not become adhered to one another.
5
 - 38. The method according to claim 27, wherein when the layer of a heat-actuated

adhesive material is applied between the first, inner layer of a first fabric and the second, outer layer of a second fabric, at least one additional material, to provide at least one of the functions of acting as a reinforcing material, a stiffening material, and a shape-imparting material, is also inserted between at least one of the first, inner layer of a first fabric and the layer of heat-actuated adhesive material; and the second, outer layer of a second fabric and the layer of heat-actuated adhesive material, at certain selected portions of the overlapping surfaces of the first and second layers.

- 5 39. A method for making a single main piece brassiere formed from a glued multi-fabric layer laminate material, comprising:
- 5 a. determining a desired number of fabric layers of the fabric laminate and the fabric for each layer, wherein different fabric layers are made of the same or different fabrics, and such that where different fabrics are selected for different fabric layers of the fabric laminate, the different fabrics have compatible stretch properties;
- 10 b. cutting a fabric blank from the fabric selected for each layer of the fabric laminate such that the fabric blank for each layer of the fabric laminate is a polygonal shaped piece of fabric having an outline generally following an outline of a brassiere to be made from a blank of the fabric laminate assembled and glued together from the individual layers of the fabric laminate, and further such that there is an outer border strip of excess fabric extending around an entire outer perimeter of each fabric blank that exceeds the size of the final brassiere to
- 15 be made from the blank of the fabric laminate, wherein the border strip of

- excess fabric has a width of from about 0.5 inch to about 1.5 inches;
- c. determining whether a particular brassiere to be made is to include pieces of any other materials inserted between layers of the fabric laminate in order to provide any of stability, reinforcement, and shape to the brassiere, and providing any such pieces as required, including preliminarily separately attaching any such pieces to a surface of one of the fabric blanks of the individual fabric layers provided in b that are to be assembled into the fabric laminate, such that any attached pieces are attached to a surface of a fabric blank that will become a surface facing toward an interior of the fabric laminate when assembled and glued;
- d. determining whether any portions of the fabric laminate that is to be assembled and glued together from the fabric blanks of the individual fabric layers provided in b and any of the other materials inserted therebetween provided in c are not to be glued together;
- e. providing a heat-actuatable thermoplastic adhesive material with which to glue the individual fabric blanks provided in b and any pieces of other materials to be inserted therebetween provided in c together;
- f. assembling the fabric laminate from the individual layers of fabric blanks provided in b and any pieces of other materials to be inserted therebetween provided in c, such that heat-actuatable adhesive is interspersed between all the layers of fabric blanks and between any pieces of other inserted materials between such inserted materials and their respective adjacent layers of fabric blanks, such that the adhesive material covers all portions of the surfaces of adjacent layers of the fabric blanks and any other materials inserted

40

therebetween that are to be glued together, such that the portions of the surfaces of adjacent layers of the fabric blanks and any other materials inserted therebetween that are to be glued together includes at least an inner border strip within the inner perimeter of the fabric laminate blank that is to become the brassiere that will be cut from the fabric laminate blank of from about 0.5 inch to about 1.5 inch; and that the adhesive material does not cover any portions of the surfaces of adjacent layers of the fabric blanks and any other inserted materials that are not to be glued together, as determined in d;

45

- g. exposing the fabric laminate blank prepared in f to a hot-melt process to actuate the thermoplastic adhesive material to cause all layers of the fabric blanks and any other materials inserted therebetween to become glued together at all places of the respective surfaces thereof that were exposed to the adhesive material;
- h. removing the outer border strip of excess fabric material from around the entire outer perimeter of the fabric laminate blank made in g, that exceeds the size of the brassiere that is to be made from the particular fabric laminate blank; in order to form a size-specific, semi-finished fabric laminate blank of the appropriate size for the particular garment to be made therefrom;
- i. molding the breast cups of the brassiere by heat and shape memory treating the fabric laminate in the region of the breast cups to impart a predetermined cup size and shape thereto, which is retained by those portions of the fabric laminate in the breast cup regions of the blank thus treated, to form a semi-finished brassiere blank;
- j. applying any desired decorative finished edge design to the outer perimeter of the semi-finished brassiere blank formed according to (i.); and

k. completing fabrication of the brassiere by attaching any accessories to the semi-finished brassiere blank appropriate for the type of brassiere being made therefrom, and finishing assembly of the brassiere blank as required for the type of brassiere being made therefrom.

40. The method according to claim 39, wherein the number of fabric layers for the fabric laminate selected in (a.) is from 2 to 5.
 41. The method according to claim 39, wherein the fabric(s) selected for the layers of the fabric laminate are selected from the group of fabrics consisting of: cotton, nylon, polyester, tricot, spandex, and combinations thereof.
 42. The method according to claim 39, wherein all of the fabric layers for the fabric laminate are made of the same material.
 43. The method according to claim 39, wherein at least one of the fabric layers is made from an elastomeric stretch fabric.
 44. The method according to claim 43, wherein the elastomeric stretch fabric is spandex.
 45. The method according to claim 42, wherein all fabric layers for the fabric laminate have compatible stretch properties.

- 100-1010-0032-260
46. The method according to claim 39, wherein the other materials for providing stability, reinforcement, and/or shape to the brassiere include fabric channels and accompanying wires inserted therein for underwire type brassieres; a center gore for the front center between-cups region of back-closing type brassieres; an extended center gore with undercup support panels for the front center between-cups and the undercups regions of back-closing type brassieres; and side and/or back panel inserts.
- 5
47. The method according to claim 46, wherein when fabric channels and their accompanying wires are provided for underwire type brassieres, the fabric channels are attached to an inner facing surface of one of the fabric layer blanks for the fabric laminate before assembly and gluing of the fabric laminate, by a method selected from the group consisting of: stitching, gluing, and fusing the channel material to the fabric blank; and the underwires are inserted into the channels after assembly and gluing of the fabric laminate, at which time the channels are also sealed to completely enclose the underwires.
- 5
48. The method according to claim 39, wherein portions of the fabric laminate that are selectable for not being glued together according to (d) include the portions of the fabric layers of the fabric laminate in the regions of the breast support cups.
49. The method according to claim 39, wherein the heat-actuatable thermoplastic adhesive material is a thermoplastic adhesive resin.

- T040903V22/60
50. The method according to claim 49, wherein the thermoplastic adhesive resin is selected from the group consisting of a polyamide and a polyurethane.
 51. The method according to claim 49, wherein the thermoplastic adhesive resin is in a form selected from the group consisting of: a web; a film; a dry powder; a print; a spray; and an aerosol.
 52. The method according to claim 51, wherein the thermoplastic adhesive resin is in the form of a web.
 53. The method according to claim 51, wherein an adhesive web blank, having a size and shape corresponding to the size and shape of the individual fabric layer blanks for the fabric laminate is cut from the adhesive web material for every two adjacent fabric layer blanks for the fabric laminate, appropriate for the number of fabric layer blanks for a given fabric laminate being made therefrom, for insertion between the respective adjacent fabric blank layers during assembly of the fabric laminate blank in (f.), prior to formation of the glued fabric laminate by heat actuation of the adhesive material of the adhesive web blank according to (g.) to glue the fabric laminate together.
5
 54. The method according to claim 53, wherein when the fabric laminate is assembled according to (f.), for those portions of the fabric laminate that are not to be glued together, as determined according to (d.), portions of the adhesive resin web blank(s) corresponding to the portions of the fabric laminate that is to be formed

5 therefrom that are not to be glued, are first removed from the adhesive resin web blank(s) before insertion between the respective fabric layer blanks during assembly of the complete fabric laminate blank according to (f.).

55. The method according to claim 39, wherein the thermoplastic adhesive material is actuated by a hot-melt process, wherein the thermoplastic adhesive material is brought to a temperature at or above its melting temperature to cause it to completely overspread and fill interstitial spaces in the portions of the fabric layers and other inserted materials to which it has been applied during assembly of the fabric laminate, so as to cause the fabric layers and other inserted materials to become glued together in those portions thereof that are in communication with the molten thermoplastic adhesive material, as the molten adhesive material cools and sets.
56. The method according to claim 55, wherein the hot-melt process is performed at a temperature in the range of from about 100 °C to about 200 °C.
57. The method according to claim 55, wherein the hot-melt process is performed in two stages.
58. The method according to claim 57, wherein the first stage of the hot-melt process is performed at a temperature at or above the melting point temperature for the adhesive material being used and the second stage of the hot-melt process is performed at a temperature that is at least 10 °F below the melting point

5 temperature of the adhesive material being used, in order to quench and cool the temperature of the fabric laminate and the adhesive material to enable the adhesive material to set and adhere to the various fabric layers and any other inserted materials of the fabric laminate.

59. The method according to claim 55, wherein the total dwell time of the assembled fabric layers, any other materials inserted therebetween, and the adhesive, for forming the fabric laminate, in the hot-melt process is from about twenty seconds to about three minutes.
60. The method according to claim 58, wherein the dwell times of the assembled fabric layers, any other materials inserted therebetween, and the adhesive, for forming the fabric laminate, in the first stage of the hot-melt process is from about 10 seconds to about 90 seconds, and in the second stage of the hot-melt process is from about 10 seconds to about 90 seconds.
- 5 61. The method according to claim 60, wherein the dwell times of the assembled fabric layers, any other materials inserted therebetween, and the adhesive, for forming the fabric laminate, in both the first and second stages of the hot-melt process are about equal.
62. The method according to claim 39, wherein removing the outer border strip of excess fabric material around the entire outer perimeter of the fabric laminate blank according to (h.) is done by cutting.

63. The method according to claim 62, wherein the cutting is performed by a method selected from the group consisting of: cutting using blade cutting means to linearly cut along a predetermined outline of the brassiere to be cut from the fabric laminate blank for a specified size brassiere; and die cutting using die cutting means including a die of a predetermined size for a specified size of the brassiere, to punch an entire size-specific, semi-finished brassiere blank from the fabric laminate blank in a single movement of the die.
- 5
64. The method according to claim 63, wherein the blade cutting means and the die cutting means are mechanized.
65. The method according to claim 64, wherein the mechanized blade cutting means and mechanized die cutting means are computer controlled.
66. The method according to claim 39, wherein molding of the breast cups of the brassiere according to (i.) is performed by a hot bullet molding operation.
67. The method according to claim 66, wherein the hot bullet molding operation is performed by a single bullet molding device wherein the two breast cups of the brassiere are formed simultaneously in the size-specific, semi-finished brassiere blank, and wherein the size-specific, semi-finished brassiere blank is first folded symmetrically in half along a transverse axis through the center of the blank such that the fabric laminate material in the region of the two breast cups of the brassiere
- 5

that are to be formed overlaps each other and is positioned over a well, whereupon
a single heated bullet die having a predetermined shape and size dimensions for the
particular shape and size of breast cups to be formed, is pressed into the fabric
10 laminate material of the cups region to cause a lasting memory shape change in the
fabric laminate material of the cups region, such that the material assumes the
desired cup shape and size dimensions.

68. The method according to claim 67, wherein the hot bullet molding operation is
performed by a dual-bullet molding machine, wherein the two breast cups of the
brassiere are simultaneously molded side-by-side adjacent to one another in the
respective two breast cup regions of the size-specific, semi-finished brassiere blank,
5 as a pair of spaced-apart, adjacent, heated bullet dies, of a predetermined shape and
size dimensions, for the particular shape and size of breast cups to be formed, are
pressed into the fabric laminate material of the cups region that has been placed over
two wells that are positioned directly below corresponding bullet dies so as to
cooperate with the bullet dies, to thereby cause a lasting memory shape change in
10 the fabric laminate material of the cups region, such that the material assumes the
desired cup shape and size dimensions.

69. The method according to claim 39, wherein the decorative finished edge design that
is applied to the size-specific, semi-finished brassiere blank according to (j.) is
applied over at least portions of the outer perimeter of the brassiere blank.

70. The method according to claim 39, wherein the decorative finished edge design is

applied to the entire outer perimeter of the brassiere blank.

71. The method according to claim 69, wherein the decorative finished edge design is applied by cutting a decorative finished edge pattern into selected portions of the outer perimeter of the brassiere blank.
72. The method according to claim 71, wherein the cutting is performed by a mechanized cutting device.
73. The method according to claim 72, wherein the mechanized cutting device is selected from the group consisting of a blade cutting device and a die cutting device.
74. The method according to claim 72, wherein the mechanized cutting device is computer controlled.
75. The method according to claim 73, wherein the cutting device is a die-cutting device.
76. The method according to claim 75, wherein a die for a specified size brassiere has a specific finished edge design pattern along selected portions of an outer perimeter of the die, corresponding to those portions of the outer perimeter of the brassiere blank on which it is desired to apply the decorative finished edge design, such that when the die is positioned over the brassiere blank, which has been placed on a platen of the die cutting device, and the die is pressed onto the brassiere blank with sufficient

pressure, the decorative finished edge design pattern is cut through the outer perimeter edge of the brassiere blank by the die and the decorative finished edge design pattern is imparted to the outer perimeter of the brassiere blank in those portions thereof corresponding to those portions of the die bearing the decorative finished edge design pattern.

- 10 77. The method according to claim 69, wherein the decorative finished edge design is a scalloped pattern.
- 5 78. The method according to claim 39, wherein the accessories attached to the semi-finished brassiere blank, depending on the type of brassiere being made therefrom include a pair of shoulder straps for brassieres with straps; back closure devices for back panel closing type brassieres; and front closure devices for front center closing brassieres.
- 5 79. The method according to claim 78, wherein for brassieres with straps, the pair of shoulder straps, each strap thereof having a length and two ends, is attached such that one end of each strap is attached to the brassiere at a point on the front of the brassiere and the other opposite end of each strap is attached to the brassiere at a point on the back of the brassiere.
80. The method according to claim 79, wherein the ends of the straps are attached to the brassiere by a method selected from the group consisting of stitching, gluing, and fusing the strap material to the fabric laminate material of the brassiere blank.

- 1000000000000000
81. The method according to claim 79, wherein the straps are made from a material selected from the group consisting of cotton, nylon, polyester, and spandex.
82. The method according to claim 79, wherein the straps are attached to the brassiere in such a way that the length of the straps is adjustable.
83. The method according to claim 82, wherein the length of the straps is made adjustable by the provision of a slide on each strap.
84. The method according to claim 78, wherein the back closure devices for back closure type brassieres are selected from the group consisting of a plurality of paired hook and eye elements, a plurality of paired male and female snap elements, and cooperating pieces of a Velcro[®] fastener or the like, wherein one piece bears a plurality of hook elements uniformly and unidirectionally arranged and mounted on a first fabric backing strip and the other cooperating piece bears a mass of an intertwined fibrous material that acts as a catch for the plurality of hook elements, randomly dispersed and mounted on a second fabric mounting strip.
5
85. The method according to claim 84, wherein the back closure device for a back closure type brassiere is a plurality of cooperating hook and eye elements, such that all of the hook elements are attached to an end of one end panel of the brassiere at the back of the brassiere and all of the eye elements are attached to an end of the opposite end panel of the brassiere at the back of the brassiere, and further such that
5

all of the hook elements and all of the eye elements are attached either individually to their respective end panels of the brassiere, or all like elements are first attached to a common mounting strip of fabric with all hook elements being attached to one such mounting strip and all eye elements being attached to another such mounting strip, with the mounting strips then being directly attached to respective ends of the 10 end panels of the brassiere at the back of the brassiere.

86. The method according to claim 85, wherein the individual hook and eye elements are attached directly to the respective ends of the end panels of the brassiere, or are first attached to the fabric mounting strips, by either stitching or gluing them thereto, and where the individual like hook and eye elements are first attached to 5 fabric mounting strips, the fabric mounting strips are then attached to the respective ends of the end panels of the brassiere by stitching, gluing, or fusing the fabric mounting strips to the fabric laminate material of the end panels of the brassiere.
87. The method according to claim 86, wherein one end of each fabric mounting strip for mounting a plurality of hook or eye elements, respectively, is formed to have first and second flaps that surround the end of one of the end panels of the brassiere to which each fabric mounting strip is respectively attached.
88. The method according to claim 84, wherein the back closure device for a back closure type brassiere is a plurality of male and female snap elements, such that all of the male snap elements are attached to an end of one end panel of the brassiere at the back of the brassiere and all of the female snap elements are attached to an end

5 of the opposite end panel of the brassiere at the back of the brassiere, and further such that all of the male snap elements and all of the female snap elements are attached either individually to their respective end panels of the brassiere, or all like elements are first attached to a common mounting strip of fabric with all male snap elements being attached to one such mounting strip and all female snap elements
10 being attached to another such mounting strip, with the mounting strips then being directly attached to respective ends of the end panels of the brassiere at the back of the brassiere.

89. The method according to claim 88, wherein the individual male and female snap elements are attached directly to the respective ends of the end panels of the brassiere, or are first attached to the fabric mounting strips, by either stitching or gluing them thereto, or by securing them with a grommet attached to a back of each
5 individual male and female snap element; and where the individual like male and female snap elements are first attached to fabric mounting strips, the fabric mounting strips are then attached to the respective ends of the end panels of the brassiere by stitching, gluing, or fusing the fabric mounting strips to the fabric laminate material of the end panels of the brassiere.
90. The method according to claim 89, wherein one end of each fabric mounting strip for mounting a plurality of male and female snap elements, respectively, is formed to have first and second flaps that surround the end of one of the end panels of the brassiere to which each fabric mounting strip is respectively attached.

91. The method according to claim 84, wherein the first and second fabric backing strips of the first and second pieces of the Velcro® or Velcro®-like closure device, respectively, are attached to the respective ends of the end panels of the brassiere by stitching, gluing, or fusing the fabric backing strips to the fabric laminate material of the end panels of the brassiere.

5

92. The method according to claim 78, wherein the front closure devices for front closure type brassieres are selected from the group consisting of a rounded slide, rotate and lock cylindrical barrel catch closure device, wherein a first piece thereof includes a substantially rounded cylindrical channel at one side of the piece and means for attaching the piece to fabric at an opposite side of the piece, and a second piece thereof bears a substantially rounded cylindrical post element that cooperates and interlocks with the cylindrical channel to secure the barrel catch closure device at one side of the piece and means for attaching the piece to fabric at an opposite side of the piece; a flattened slide, twist and lock flat channel catch closure device, wherein a first piece thereof includes a substantially flattened rectangular channel at one side of the piece; and a second piece thereof includes a substantially flattened rectangular shaped post element that cooperates and interlocks with the rectangular channel to secure the flat channel closure device at one side of the piece, and means for attaching the piece to fabric at an opposite side of the piece; and cooperating pieces of a *Velcro*® fastener or the like, wherein one piece bears a plurality of hook elements uniformly and unidirectionally arranged and mounted on a first fabric backing strip and the other cooperating piece bears a mass of an intertwined fibrous material that acts as a catch for the plurality of hook elements, randomly dispersed

10

15

and mounted on a second fabric mounting strip.

93. The method according to claim 92, wherein the barrel catch front closure device is attached to the brassiere with the respective sides of each of the first and second pieces of the barrel closure device that bear means for attaching the respective pieces to fabric being stitched to respective ends of the brassiere at the front of the brassiere.
5
94. The method according to claim 92, wherein the channel catch front closure device is attached to the brassiere with the respective sides of each of the first and second pieces of the flat channel catch front closure device with the means for attaching the respective pieces to fabric thereon being stitched to respective ends of the brassiere
5 at the front of the brassiere.
95. The method according to claim 92, wherein the first and second fabric backing strips of the first and second pieces of the Velcro[®] or Velcro[®]-like closure device, respectively, are attached to the respective ends of the brassiere at the front thereof by stitching, gluing, or fusing the fabric backing strips to the fabric laminate material of the end panels of the brassiere.
5
96. The method according to claim 39, wherein when the brassiere type made from a brassiere blank is a tubular type, the brassiere blank is made to be open at either the front or the back of the brassiere and the tubular brassiere is assembled and finished by sealing the open front or back ends of the brassiere blank together.

97. The method according to claim 96, wherein the sealing of the front or back open ends of a brassiere blank to form a closureless tubular type brassiere is by a method selected from the group consisting of stitching, gluing, or fusing the ends of the brassiere blank together to form a fully closed tubular brassiere.
98. The method according to claim 97, wherein when the tubular type brassiere made according thereto also has a pair of shoulder straps, wherein each strap thereof has a length and two ends, the shoulder straps are attached to the brassiere after the ends of the brassiere blank from which the brassiere is made have been sealed, such that the pair of shoulder straps is attached with one end of each strap being attached to the brassiere at a point on the front of the tubular brassiere and with the other opposite end of each strap being attached to the brassiere at a point on the back of the tubular brassiere.
5
99. The method according to claim 98, wherein the ends of the straps are attached to the brassiere by a method selected from the group consisting of stitching, gluing, and fusing the strap material to the fabric laminate material of the brassiere blank.
100. The method according to claim 98, wherein the straps are made from a material selected from the group consisting of cotton, nylon, polyester, and spandex.
101. The method according to claim 98, wherein the straps are attached to the brassiere in such a way that the length of the straps is adjustable.

102. The method according to claim 101, wherein the length of the straps is made adjustable by the provision of a slide on each strap.
103. A brassiere made according to the method of claim 39.
104. The brassiere according to claim 103 which is of a type selected from the group consisting of: (a.) a soft cup back closure brassiere with straps; (b.) a soft cup front closure brassiere with straps; (c.) a soft cup back closure strapless brassiere; (d.) a soft cup front closure strapless brassiere; (e.) a soft cup tubular brassiere with straps; (f.) a soft cup tubular strapless brassiere; (g.) an underwire back closure brassiere with straps; (h.) an underwire front closure brassiere with straps; (i.) an underwire back closure strapless brassiere; (j.) an underwire front closure strapless brassiere; (k.) an underwire tubular brassiere with straps; and (l.) an underwire tubular strapless brassiere.
105. A composite fabric laminate comprising a plurality of fabric layers, each layer having an area with a first and a second facing surface, with each layer being either the same as or different from other layers, and such that the layers are glued together over at least a portion of at least one facing surface of each fabric layer that is adjacent to and in communication with at least one facing surface of another fabric layer, and such that at least one fabric layer is a composite fabric layer made from a plurality of different fabrics that abut one another at seam lines in a plane of the surface area of that layer.

106. The composite fabric laminate according to claim 105 containing from 2 to 6 fabric layers.
107. The composite fabric laminate according to claim 105, wherein the at least one composite fabric layer contains from 2 to 5 different fabrics.
108. The composite fabric laminate according to claim 107, wherein the at least one composite fabric layer contains 2 different fabrics.
109. The composite fabric laminate according to claim 105, wherein the fabric layers are glued together over the entirety of the facing surfaces of each fabric layer that are adjacent to and in communication with a facing surface of another fabric layer.
110. The composite fabric laminate according to claim 105, wherein the fabric layers are glued together by an adhesive material interspersed between each fabric layer over those portions of adjacent fabric layers that are to be glued to one another.
111. The composite fabric laminate according to claim 110, wherein the adhesive material is a heat-actuated thermoplastic adhesive resin material.
112. The composite fabric laminate according to claim 111, wherein the heat-actuated thermoplastic adhesive resin material is a polyamide.

- 1000000000
113. The composite fabric laminate according to claim 111, wherein the heat-actuated thermoplastic adhesive resin material is in a form selected from the group consisting of: a web; a film; a dry powder; a print; a spray; and an aerosol.
 114. The composite fabric laminate according to claim 113, wherein the heat-actuated thermoplastic adhesive resin material is in the form of a web.
 115. The composite fabric laminate according to claim 105, further containing other material inserted between at least portions of at least two adjacent fabric layers.
 116. The composite fabric laminate according to claim 115, wherein the other inserted material includes bridging material insert pieces that transversely span at least portions of the seam lines between different abutting fabrics of a composite fabric layer, such that the bridging material insert pieces are adjacent to a facing surface of the composite fabric layer that is an interior facing surface of the composite fabric laminate.
5
 117. The composite fabric laminate according to claim 115, wherein when at least two adjacent layers of the composite fabric laminate are made from a plurality of different fabrics that abut one another in a plane of the surface area of that layer, and wherein the seam lines between different abutting fabrics in one layer overlay the seam lines between different abutting fabrics in the adjacent layer, such that adjacent fabrics in adjacent layers are the same or are different, the other material inserted between at least those two adjacent layers includes bridging material insert
5

pieces that transversely span at least a portion of the overlying seam lines of the two adjacent composite fabric layers.

118. A two-fabric layer composite fabric laminate according to claim 105, wherein a first fabric layer is a composite fabric layer including abutting alternating sections of at least two different fabrics and a second fabric layer is a continuous layer of a single fabric.
119. A two-fabric layer composite fabric laminate according to claim 105, wherein the seam lines between different fabrics of abutting sections of a fabric layer are not straight.
120. The two-fabric layer composite fabric laminate according to claim 119, wherein the seam lines are zig-zag or scalloped.
121. The composite fabric laminate according to claim 105, wherein at least one fabric in each composite fabric layer is a stretch fabric.
122. The composite fabric laminate according to claim 121, wherein the at least one stretch fabric is spandex.
123. A fabric blank for a garment made from the composite fabric laminate according to claim 105.

124. The fabric blank according to claim 123, wherein the garment is selected from the group consisting of: a brassiere; and an underpanty.

125. A fabric blank for a brassiere made of a composite fabric laminate according to claim 115, wherein the other inserted material also includes at least one material selected from the group consisting of: material for underwire channels and their inserted underwires for underwire type brassieres; a central gore for back-closure type brassieres; an expanded gore with undercup support panels for back-closure type brassieres; side support panels; back support panels; and bridging material insert pieces.

126. A method for making a multi-fabric-layer composite fabric laminate, wherein at least one fabric layer is made of a composite fabric having at least two different fabrics co-planarly abutting one another, the method comprising:

- a. determining the total number of fabric layers of the composite fabric laminate;
- b. determining which layer or layers thereof are to be composite fabric layers, such that at least one layer is a composite fabric layer;
- c. determining the fabrics to be utilized for each composite fabric layer;
- d. providing pieces of each fabric to be used for each composite fabric layer, such that seams of different fabrics in each composite fabric layer co-planarly abut one another;
- e. providing the layers of single fabrics for any non-composite fabric layers of the composite fabric laminate;

- 1000000000000000
- 15 f. determining an arrangement in which the fabric and composite fabric layers of the composite fabric laminate are to be assembled;
- 20 g. determining whether any composite fabric layer is to be adjacent to any other composite fabric layer, and where so, whether any seam lines of a first such composite fabric layer are to overlap with the seam lines of any other adjacent composite fabric layers, and where so, providing bridging material insert pieces to be inserted in the composite fabric laminate transversely to at least part of the length of such overlapping seam lines, so as to provide means for the various fabrics of the composite fabric layers of the adjacent such layers to adhere to one another, thereby also providing stability and support to the composite fabric laminate;
- 25 h. determining whether it is desired to insert any other materials between any portions of any adjacent fabric or composite fabric layers of the laminate in order to provide at least one of additional stability, support and control to those portions of the composite fabric laminate where any such materials are inserted;
- 30 i. providing pieces of any such other materials to be inserted between any layers of the composite fabric laminate;
- 35 j. determining which portions of adjacent fabric layers of the composite fabric laminate are to be glued together;
- k. assembling the various layers of the composite fabric laminate in their predetermined arrangement, including any bridging material insert pieces, as required, as well as pieces of any other materials desired to be inserted between any layers of the laminate to provide additional stability, support,

and/or control to portions of the composite fabric laminate, together with a sufficient amount of a heat-actuable thermoplastic adhesive resin material to cover the facing surface areas of every adjacent fabric layer of the composite fabric laminate that have been determined to be desirably glued together, such that the heat-actuable thermoplastic adhesive resin material is inserted between every two layers of the fabric laminate that are to be interiorly facing surfaces of the final composite fabric laminate, in those portions determined to be desired to be glued together; and

45 1. heat-treating the resulting assembled composite fabric laminate to actuate the thermoplastic adhesive resin material to cause abutting fabrics of every composite fabric layer to be glued together along their seam lines and to cause adjacent layers of the composite fabric laminate to become glued together, together with any inserted bridging material insert pieces and any other pieces of materials inserted to provide additional stability, support and/or control to the composite fabric laminate, in all adjacent portions thereof that are in communication and contact with the thermoplastic adhesive resin material.

50 127. The method according to claim 126, wherein the total number of fabric layers is from two to six.

128. The method according to claim 126, wherein each of the at least one composite fabric layers contains from 2 to 5 different fabrics, such that at least two different fabrics abut one another along seam lines between the two fabrics over at least a

portion of an overall facing surface area of the composite fabric layer.

129. The method according to claim 126, wherein the heat-actuated thermoplastic adhesive resin material is a polyamide.
130. The method according to claim 126, wherein the heat-actuated thermoplastic adhesive resin material is in a form selected from the group consisting of: a web; a film; a dry powder; a print; a spray; and an aerosol.
131. The method according to claim 126, wherein the seam lines between abutting different fabrics of a composite fabric layer of the laminate are not straight.
132. The method according to claim 131, wherein the seam lines are zig-zag or scalloped.
133. The method according to claim 126, wherein at least one fabric in single fabric layer or a composite fabric layer is a stretch fabric.
134. The method according to claim 133, wherein the at least one stretch fabric is spandex.
135. The method according to claim 126, wherein when the composite fabric laminate is to be used in the making of a brassiere, the other inserted materials that are insertable between layers of the composite fabric laminate include material for

underwire channels and their inserted underwires for underwire type brassieres; a
5 central gore for back-closure type brassieres; an expanded center gore with
undercup support panels for back-closure type brassieres; side support panels; and
back support panels; and wherein the composite fabric laminate is to be used in the
making of a panty, the other inserted materials that are insertable between layers of
the composite fabric laminate include materials for front, tummy control panels;
10 side, hip control panels; rear, buttocks control panels; and rear, buttocks shape-
providing insert panels.

136. The method according to claim 126, wherein any bridging material insert pieces are made from a fabric selected from the group consisting of: cotton; polyester; nylon; tricot; and taffeta.
137. The method according to claim 135, wherein underwire channels are made from a material selected from the group consisting of: cotton, cotton blend, polyester, nylon, spandex, and tricot; underwires for insertion in underwire channels are made from the group consisting of plastic and metal; gores and expanded gores are made from a material selected from the group consisting of: cotton, cotton blend, polyester, knit polyester, and nylon; and side support panels, back support panels, front, tummy control panels; side, hip control panels, and rear, buttocks control and shape-providing panels are made from a material selected from the group consisting of cotton, polyester, nylon, and spandex.
5
138. The method according to claim 126, wherein the heat-treatment step to actuate the

thermoplastic adhesive resin material is performed at a temperature at or above the melting temperature of the adhesive resin material, and below a temperature that would cause thermal damage to any of the fabrics or other materials in the composite fabric laminate material.

5

139. The method according to claim 126, wherein the heat-treatment step to actuate the thermoplastic adhesive resin material is performed at a temperature in the range of from about 100 °C to about 200 °C.

140. The method according to claim 126, wherein the heat-treatment step to actuate the thermoplastic adhesive resin material is performed in two stages, including a first, hot stage, wherein the adhesive and the fabric laminate is raised to a temperature that is at or above the melting point temperature of the adhesive resin and below a temperature at which thermal damage to any of the fabrics and any inserted materials in the composite fabric laminate occurs; and a second, cool stage, at a temperature the melting point temperature of the adhesive material, wherein the molten adhesive cools and sets to glue fabrics of each composite fabric layer abutting one another together, and to glue all surfaces of all fabric layers and any other materials inserted therebetween together in all areas thereof that are in contact with the adhesive resin material.

5

10

141. The method according to claim 126, wherein the heat-treatment step is also performed at an elevated pressure above ambient atmospheric pressure in order to facilitate contact between the adhesive resin material, both while in a molten state

and in a subsequent setting state, and the fabrics and other materials inserted therebetween in the composite fabric laminate, so as to cause such fabrics and other materials inserted therebetween to adhere to one another wherever they are in contact with the adhesive resin material.

- 5
142. The method according to claim 126, wherein the heat-treatment step is conducted for a period of time of from about 10 seconds to about three minutes.
143. The method according to claim 140, wherein the hot stage of the heat-treatment step is performed for a time duration of from about 10 seconds to about 90 seconds, and the cool stage is performed for a time duration of from about 10 seconds to about 90 seconds.
144. The method according to claim 140, wherein the time duration of both the hot stage and the cool stage is the same.

P04440 = 100822260